WHAT IS CLAIMED IS:

1. A signal detection method used in a spread spectrum communication system for detecting a spread spectrum signal, comprising steps of:

a) receiving an input signal;

b) converting said input signal into a correlator output signal with finite number of values;

c) selecting a maximum value and a minimum value from the magnitude of said values respectively;

d) dividing said maximum value of magnitude of said values by said minimum value of magnitude of said values for obtaining an enhanced peak value of said correlator output signal; and

e) comparing said enhanced peak value of said correlator output signal with a predetermined threshold, wherein said input signal is detected as said spread spectrum signal if said enhanced peak value of said correlator output signal is one of larger than and equal to said predetermined threshold, whereas said input signal is not detected as said spread spectrum signal if said enhanced peak value of said correlator output signal is smaller than said predetermined threshold.

2. The method as claimed in claim 1, wherein said spread spectrum communication system is a direct sequence spread spectrum communication system.

3. The method as claimed in claim 1, wherein said input signal is a discrete-time received signal.

4. The method as claimed in claim 3, wherein said discrete-time received signal is an IEEE 802.11b signal.

5. The method as claimed in claim 1, wherein said input signal is converted

13

into said correlator output signal by means of said correlator for performing said step b).

6. The method as claimed in claim 5, wherein said correlator includes a Barker code to be served as a spreading sequence.

7. A signal detection method used in a spread spectrum communication system for detecting a spread spectrum signal, comprising steps of:

a) receiving an input signal;

b) converting said input signal into a correlator output signal with finite number of values;

c) calculating a first sum of A absolute values which are larger than the other absolute values of said correlator output signal and a second sum of B absolute values which are smaller than the other absolute values of said correlator output signal, respectively;

d) dividing said first sum by said second sum for obtaining an enhanced peak value of said correlator output signal; and

e) comparing said enhanced peak value of said correlatot output signal with a predetermined threshold, wherein said input signal is detected as said spread spectrum signal if said enhanced peak value of said correlator output signal is one of greater than and equal to said predetermined threshold, whereas said input signal is not detected as said spread spectrum signal if said enhanced peak value of said correlator output signal is less than said predetermined threshold.

8. The method as claimed in claim 7, wherein said spread spectrum communication system is a direct sequence spread spectrum communication system.

9. The method as claimed in claim 7, wherein said input signal is a

discrete-time received signal.

10. The method as claimed in claim 9, wherein said discrete-time received signal is an IEEE 802.11b signal.

11. The method as claimed in claim 7, wherein said input signal is converted into said correlator output signal by means of said correlator for performing said step b).

12. The method as claimed in claim 11, wherein said correlator includes a Barker code to be served as a spreading sequence.

13. The method as claimed in claim 7, wherein both said A and said B are one of greater than and equal to 1.